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APPLICATION NO.	FIL	ING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,416	03/03/2000		Robert Huijie Deng	U 012638-5	6305
140	7590	02/27/2004	EXAMINER		NER
LADAS & 1 26 WEST 61		īT	HENEGHAN, MATTHEW E		
NEW YORK		023		ART UNIT	PAPER NUMBER
	,			2134	1//
				DATE MAILED: 02/27/2004	, p

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)					
Office Action Summary	09/518,416	DENG ET AL.					
Office Action Summary	Examiner	Art Unit					
TI MAN INO DATE SAkin communication and	Matthew Heneghan	2134					
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address					
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may a reply be time within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).					
Status							
1) Responsive to communication(s) filed on 20 Ja	nuary 2004.						
,	2a) This action is FINAL . 2b) This action is non-final.						
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is							
closed in accordance with the practice under E	x parte Quayle, 1935 C.D. 11, 45	53 O.G. 213.					
Disposition of Claims							
4) Claim(s) 75-106 is/are pending in the application.							
4a) Of the above claim(s) <u>91-106</u> is/are withdrawn from consideration.							
5) Claim(s) is/are allowed.							
6)⊠ Claim(s) <u>75-90</u> is/are rejected.							
7) Claim(s) is/are objected to.							
8) Claim(s) are subject to restriction and/or	r election requirement.						
Application Papers							
9)⊠ The specification is objected to by the Examiner.							
10)⊠ The drawing(s) filed on <u>03 March 2000</u> is/are: a) accepted or b)⊠ objected to by the Examiner.							
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).							
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).							
11) The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PTO-152.					
Priority under 35 U.S.C. § 119							
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:)-(d) or (f).					
1.⊠ Certified copies of the priority document		ian Na					
2. Certified copies of the priority document							
 Copies of the certified copies of the prior application from the International Bureau 		ed in this National Stage					
* See the attached detailed Office action for a list		ed.					
des the attached detailed emiss detail for a net of the defailed depicts net reserved.							
Attachment(s)							
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	4)						
Notice of Dransperson's Patent Drawing Review (P10-946) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)		Patent Application (PTO-152)					
Paper No(s)/Mail Date 3,4,16.	6) Other:						

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DETAILED ACTION

 Claims 75-90 have been examined. Claims 91-106 have withdrawn from consideration in response to an election requirement issued by the Office (see Paper No. 17) without traverse.

Priority

2. The instant application claims priority to Singapore Patent Application No. 9906598-9, filed 24 December 1999.

Information Disclosure Statement

3. The following Information Disclosure Statements in the instant application have been fully considered:

Paper No. 3, filed 15 May 2000.

Paper No. 4, filed 16 June 2000.

Paper No. 16, filed 28 February 2003.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

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figure 2, item 200; figure 3, item 300; figure 4, item 400. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because the phrase "FIG. 6" in line 15 does not belong in the abstract. Correction is required. See MPEP § 608.01(b).

Claim Objections

5. Claims 77, 81, 85, and 89 are objected to because of the following informalities: They are not single sentences. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 76, 80, and 84 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For purposes of the prior art search, the limitations following "such as" are being ignored.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 7. Claim 75, 77-79, 81-83, 85-87, 89, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,440,635 to Bellovin et al. in view of Dwork et al., "Concurrent Zero-Knowledge," 1998.

Regarding claims 75, 78, 79, 82, 83, 86, 87, and 90, Bellovin discloses a remote public key authentication protocol using the Diffie-Hellman key exchange wherein Alice and Bob exchange challenge and response signals (ciphertexts) using their respective keys, along with their respective keys, using a symmetric algorithm. Each party then computes the session key based on the products of the respective random numbers to complete the transaction, and exchange authentication and validation signals and verify them (see entire Detailed Description).

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Bellovin does not incorporate the usage of an elapsed time test in the authentication procedure.

Dwork discloses the usage of time constraints in key exchange procedures, where the length of time for a transaction must be above a minimum but below a maximum range, and bases the range on message length (see section 4, Protocol III, for example). Dwork suggests that this enables the obtaining of zero-knowledge in concurrent executions (see abstract).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the protocol disclosed by Bellovin to include time constraints on transmissions by each party, as disclosed by Dwork, in order to obtain zero-knowledge in concurrent executions.

Regarding claims 77, 81, 85, and 89, official notice is given that the technique of recognizing another party by familiar biometric characteristics (such as a friend's voice) is well-known in the art to be a quick and easy way to verify an identity.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to further modify the protocol of Bellovin and Dwork by also recognizing another party's familiar characteristics, as is well-known in the art, as a quick and easy way to verify an identity.

8. Claims 76, 80, 84, and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,737,420 to Tomko et al. in view of U.S. Patent No. 5,440,635 to Bellovin et al. in view of Dwork et al., "Concurrent Zero-Knowledge," 1998.

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Tomko discloses a method for biometric key exchange wherein the key exchange may be based on a Diffie-Hellman key derivation, but does not disclose a specific method for the key exchange (see column 2, lines 42-64).

Bellovin and Dwork disclose a Diffie-Hellman key exchange, as described above.

Bellovin further suggests that the method is useful because it protects the information from being revealed to an eavesdropper.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to implement the Diffie-Hellman key exchange in the invention of Tomko using the technique disclosed by Bellovin and Dwork, in order to protect the information from being revealed to an eavesdropper.

Conclusion

- 9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- U.S. Patent No. 4,710,613 to Shigenaga discloses an authentication system wherein authentication information is validated by comparing against the predicted processing time for a challenge.
- U.S. Patent No. 5,491,750 to Bellare et al. discloses methods for key exchanges in establishing encrypted connections.
- U.S. Patent No. 5,720,034 to Case discloses a method for generating identical keys for both users.

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U.S. Patent No. 5,910,989 to Naccache discloses key signature authentication

based upon response time.

U.S. Patent No. 6,571,344 to Sitnik discloses a method for authentication based

upon response time.

10. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Matthew E. Heneghan, whose telephone number is

(703) 305-7727. The examiner can normally be reached on Monday-Thursday from

8:00 AM - 4:00 PM Eastern Time. The examiner can also be reached on alternate

Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gregory Morse, can be reached on (703) 308-4789.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal

Drive, Arlington, VA 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

GREGORY MORSE

SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 2100

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MEH May

February 10, 2004